24. (-2, 1) (2, -2) $ax + by = c$

(2.55, 1.89)

(4, .862) slope $= \frac{.862 - 1.89}{4 - 2.55}$

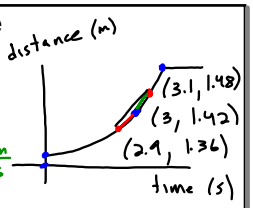
$= \frac{-1.028 \text{ m}}{1.45 \text{ s}}$ $\frac{\Delta y}{\Delta x}$

$= -.7089 \frac{m}{s}$

Aug 22-10:08 AM

2.4a Average Rate of Change

Estimate the velocity at t=3 using the data



right hand difference quotient (rhdq)

$\frac{1.48 - 1.42}{3.1 - 3} = \frac{.06}{.1} = .6 \frac{m}{s}$

left hand difference quotient (lhdq)

$\frac{1.42 - 1.36}{3 - 2.9} = \frac{.06}{.1} = .6 \frac{m}{s}$

symmetric difference quotient (sdq)

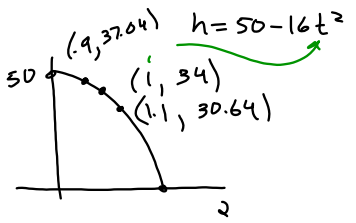
$\frac{1.48 - 1.36}{3.1 - 2.9} = \frac{.12}{.2} = .6 \frac{m}{s}$

Aug 24-9:22 AM

Find the regression curve and trace as close as you can to the desired points. Use the regression curve points to estimate velocity.

Aug 26-5:59 PM

A ball is dropped from the top of a 50 ft tower. Its height above ground after t seconds is $50 - 16t^2$ How fast is it falling after 2 seconds?



1

SDQ $= \frac{30.64 - 37.04}{1.1 - .9}$

$= -32 \frac{ft}{sec}$

Aug 24-9:34 AM

The table shows the coordinates of a moving body. Estimate the velocity at t=2.5.

t sec	0	.5	1	1.5	2	2.5	3	3.5	4
s (ft)	3.5	-4	-8.5	-10	-8.5	-4	3.5	14	27.5

SDQ $\frac{3.5 - -8.5}{3 - 2} = \frac{12}{1} = 12 \frac{ft}{sec}$

Aug 24-9:40 AM